

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. An identifier indicating the status of each claim is provided.

Listing of Claims

1. (Currently Amended) A magnetic-tape recording apparatus for recording digital data on a magnetic tape by a rotating head, comprising:
 - first obtaining means for obtaining predetermined-unit video data, which includes a predetermined unit of pictures;
 - second obtaining means for obtaining audio data corresponding to the predetermined-unit video data;
 - synthesizing means for recording the predetermined unit of pictures and the corresponding audio data as one group on the magnetic tape such that ~~they said predetermined~~ unit of pictures and the corresponding audio data are continuous on a track in the magnetic tape without any space disposed therebetween,
 - wherein said one group of the predetermined unit of pictures and said corresponding audio data is recorded on a common main sector in a track, said track including an error correction code, said common main sector including an SB header and main data, said main data including at least said predetermined unit of pictures and said corresponding audio data, and said SB header including identification information for identifying a type of said main data, ~~and~~
 - wherein said one group of the predetermined unit of pictures and said corresponding audio data is recorded in a predetermined number of tracks interleaved in said error correction code, and
 - wherein the predetermined unit of pictures includes three pictures; and

sending means for sending data synthesized by the synthesizing means to the rotating head in order to record the data on the magnetic tape.

2. (Original) A magnetic-tape recording apparatus according to claim 1, further comprising

compression means for compressing the high-quality video data obtained by the first obtaining means,

wherein the first obtaining means obtains, as the video data, high-quality video data; and

the predetermined-unit video data is the data of pictures whose number is indicated by the value of M in a GOP structure.

3. (Original) A magnetic-tape recording apparatus according to claim 2, wherein the compression means compresses the high-quality video data by an MP@HL or MP@H-14 method.

4. (Original) A magnetic-tape recording apparatus according to claim 2, further comprising

third obtaining means for obtaining, as the video data, compressed standard video data,

wherein the high-quality video data obtained by the first obtaining means includes distinguish information for distinguishing the high-quality video data from the standard video data; and

the synthesizing means selects the high-quality video data compressed by the compression means or the compressed standard video data obtained by the third obtaining means and synthesizes.

5. (Currently Amended) A magnetic-tape recording method for a magnetic-tape recording apparatus for recording digital data on a magnetic tape by a rotating head, comprising:

a first obtaining step of obtaining predetermined-unit video data;

a second obtaining step of obtaining audio data corresponding to the predetermined-unit video data, which includes a predetermined unit of pictures;

a synthesizing step of recording the predetermined unit of pictures and the corresponding audio data as one group on the magnetic tape such that ~~they~~ said predetermined unit of pictures and the corresponding audio data are continuous on a track in the magnetic tape without any space disposed therebetween,

wherein said one group of the predetermined unit of pictures and said corresponding audio data is recorded on a common main sector in a track, said track including an error correction code, said common main sector including an SB header and main data, said main data including at least said predetermined unit of pictures and said corresponding audio data, and said SB header including identification information for identifying a type of said main data, ~~and~~

wherein said one group of the predetermined unit of pictures and said corresponding audio data is recorded in a predetermined number of tracks interleaved in said error correction code, and

wherein the predetermined unit of pictures includes three pictures; and

a sending step of sending data synthesized by a process in the synthesizing step to the rotating head in order to record the data on the magnetic tape.

6. (Currently Amended) A recording medium for recording a computer-readable program, executed by a computer, which controls a magnetic-tape recording apparatus for recording digital data on a magnetic tape by a rotating head, the program comprising:

a first obtaining step of obtaining predetermined-unit video data;

a second obtaining step of obtaining audio data corresponding to the predetermined-unit video data, which includes a predetermined unit of pictures;

a synthesizing step of recording the predetermined unit of pictures and the corresponding audio data as one group on the magnetic tape such that they said predetermined unit of pictures and the corresponding audio data are continuous on a track in the magnetic tape without any space disposed therebetween,

wherein said one group of the predetermined unit of pictures and said corresponding audio data is recorded on a common main sector in a track, said track including an error correction code, said common main sector including an SB header and main data, said main data including at least said predetermined unit of pictures and said corresponding audio data, and said SB header including identification information for identifying a type of said main data, ~~and~~

wherein said one group of the predetermined unit of pictures and said corresponding audio data is recorded in a predetermined number of tracks interleaved in said error correction code, and

wherein the predetermined unit of pictures includes three pictures; and

a sending step of sending data synthesized by a process in the synthesizing step to the rotating head in order to record the data on the magnetic tape.

7. (Currently Amended) A magnetic-tape reproduction apparatus for reading by a rotating head a magnetic tape into which a compressed, high-quality or standard, predetermined unit of pictures and corresponding audio data are recorded as one group on the magnetic tape such that ~~they~~ said predetermined unit of pictures and the corresponding audio data are continuous on a track without any space disposed therebetween, comprising:

first decompression means for decompressing the compressed, high-quality predetermined unit of pictures read from the magnetic tape by the rotating head;

second decompression means for decompressing the compressed corresponding audio data among the data read from the magnetic tape by the rotating head;

detecting means for detecting distinguish information for distinguishing the predetermined unit of pictures from the audio data, from the data read from the magnetic tape by the rotating head; and

selection means for selecting the first decompression means or the second decompression means according to the result of detection performed by the detecting means to process the data read from the magnetic tape by the rotating head,

wherein said predetermined unit of pictures and said corresponding audio data is recorded on a common main sector in a track, said track including an error correction code, said common main sector including an SB header and main data, said main data including at least said predetermined unit of pictures and said corresponding audio data, and said SB header including identification information for identifying a type of said main data, ~~and~~

wherein said one group of the predetermined unit of pictures and said corresponding audio data is recorded in a predetermined number of tracks interleaved in said error correction code, and

wherein the predetermined unit of pictures includes three pictures.

8. (Original) A magnetic-tape reproduction apparatus according to claim 7, wherein the first decompression means decompresses the high-quality video data by an MP@HL or MP@H-14 method.

9. (Currently Amended) A magnetic-tape reproduction method for a magnetic-tape reproduction apparatus for reading by a rotating head a magnetic tape into which compressed, high-quality or standard, predetermined unit of pictures and corresponding audio data are recorded as one group on the magnetic tape such that ~~they~~ said predetermined unit of pictures and the corresponding audio data are continuous on a track without any space disposed therebetween, comprising:

a first decompression step of decompressing the compressed, high-quality predetermined unit of pictures read from the magnetic tape by the rotating head;

a second decompression step of decompressing the compressed corresponding audio data among the data read from the magnetic tape by the rotating head;

a detecting step of detecting distinguish information for distinguishing the predetermined unit of pictures from the audio data, from the data read from the magnetic tape by the rotating head; and

a selection step of selecting a process performed in the first decompression step or in the second decompression step according to the result of detection performed in the detecting step to process the data read from the magnetic tape by the rotating head,

wherein said predetermined unit of pictures and said corresponding audio data is recorded on a common main sector in a track, said track including an error correction

code, said common main sector including an SB header and main data, said main data including at least said predetermined unit of pictures and said corresponding audio data, and said SB header including identification information for identifying a type of said main data, ~~and~~

wherein said one group of the predetermined unit of pictures and said corresponding audio data is recorded in a predetermined number of tracks interleaved in said error correction code, and

wherein the predetermined unit of pictures includes three pictures.

10. (Currently Amended) A recording medium for recording a computer-readable program, executed by a computer, which controls a magnetic-tape reproduction apparatus for reading by a rotating head a magnetic tape into which compressed, high-quality or standard, predetermined unit of pictures and corresponding audio data are recorded as one group on the magnetic tape such that ~~they~~ said predetermined unit of pictures and the corresponding audio data are continuous on a track without any space disposed therebetween, comprising:

a first decompression step of decompressing the compressed, high-quality predetermined unit of pictures read from the magnetic tape by the rotating head;

a second decompression step of decompressing the compressed corresponding audio data among the data read from the magnetic tape by the rotating head;

a detecting step of detecting distinguish information for distinguishing the predetermined unit of pictures from the audio data among the data read from the magnetic tape by the rotating head; and

a selection step of selecting a process performed in the first decompression step or in the second decompression step according to the result of detection performed in the detecting step to process the data read from the magnetic tape by the rotating head,

wherein said predetermined unit of pictures and said corresponding audio data is recorded on a common main sector in a track, said track including an error correction code, said common main sector including an SB header and main data, said main data including at least said predetermined unit of pictures and said corresponding audio data, and said SB header including identification information for identifying a type of said main data,~~and~~

wherein said one group of the predetermined unit of pictures and said corresponding audio data is recorded in a predetermined number of tracks interleaved in said error correction code, and

wherein the predetermined unit of pictures includes three pictures.

11. (Canceled)

12. (Canceled)

13. (New) A magnetic-tape recording apparatus for recording digital data on a magnetic tape by a rotating head, comprising:

first obtaining means for obtaining predetermined-unit video data, which includes a predetermined unit of pictures;

second obtaining means for obtaining audio data corresponding to the predetermined-unit video data;

synthesizing means for recording the predetermined unit of pictures and the corresponding audio data as one group on the magnetic tape such that said predetermined unit of pictures and the corresponding audio data are continuous on a track in the magnetic tape without any space disposed therebetween,

wherein said one group of the predetermined unit of pictures and said corresponding audio data is recorded on a common main sector in a track, said track including an error correction code, said common main sector including an SB header and main data, said main data including at least said predetermined unit of pictures and said corresponding audio data, and said SB header including identification information for identifying a type of said main data,

wherein said one group of the predetermined unit of pictures and said corresponding audio data is recorded in a predetermined number of tracks interleaved in said error correction code, and

wherein the predetermined number of tracks includes sixteen tracks; and
sending means for sending data synthesized by the synthesizing means to the rotating head in order to record the data on the magnetic tape.

14. (New) A magnetic-tape recording method for a magnetic-tape recording apparatus for recording digital data on a magnetic tape by a rotating head, comprising:

a first obtaining step of obtaining predetermined-unit video data;

a second obtaining step of obtaining audio data corresponding to the predetermined-unit video data, which includes a predetermined unit of pictures;

a synthesizing step of recording the predetermined unit of pictures and the corresponding audio data as one group on the magnetic tape such that said predetermined unit of pictures and the corresponding audio data are continuous on a track in the magnetic tape without any space disposed therebetween,

wherein said one group of the predetermined unit of pictures and said corresponding audio data is recorded on a common main sector in a track, said track including an error correction code, said common main sector including an SB header and main data, said main

data including at least said predetermined unit of pictures and said corresponding audio data, and said SB header including identification information for identifying a type of said main data,

wherein said one group of the predetermined unit of pictures and said corresponding audio data is recorded in a predetermined number of tracks interleaved in said error correction code, and

wherein the predetermined number of tracks includes sixteen tracks; and
a sending step of sending data synthesized by a process in the synthesizing step to the rotating head in order to record the data on the magnetic tape.

15. (New) A recording medium for recording a computer-readable program, executed by a computer, which controls a magnetic-tape recording apparatus for recording digital data on a magnetic tape by a rotating head, the program comprising:

a first obtaining step of obtaining predetermined-unit video data;

a second obtaining step of obtaining audio data corresponding to the predetermined-unit video data, which includes a predetermined unit of pictures;

a synthesizing step of recording the predetermined unit of pictures and the corresponding audio data as one group on the magnetic tape such that said predetermined unit of pictures and the corresponding audio data are continuous on a track in the magnetic tape without any space disposed therebetween,

wherein said one group of the predetermined unit of pictures and said corresponding audio data is recorded on a common main sector in a track, said track including an error correction code, said common main sector including an SB header and main data, said main data including at least said predetermined unit of pictures and said corresponding audio data, and said SB header including identification information for identifying a type of said main data,

wherein said one group of the predetermined unit of pictures and said corresponding audio data is recorded in a predetermined number of tracks interleaved in said error correction code, and

wherein the predetermined number of tracks includes sixteen tracks; and
a sending step of sending data synthesized by a process in the synthesizing step to the rotating head in order to record the data on the magnetic tape.

16. (New) A magnetic-tape reproduction apparatus for reading by a rotating head a magnetic tape into which a compressed, high-quality or standard, predetermined unit of pictures and corresponding audio data are recorded as one group on the magnetic tape such that said predetermined unit of pictures and the corresponding audio data are continuous on a track without any space disposed therebetween, comprising:

first decompression means for decompressing the compressed, high-quality predetermined unit of pictures read from the magnetic tape by the rotating head;

second decompression means for decompressing the compressed corresponding audio data among the data read from the magnetic tape by the rotating head;

detecting means for detecting distinguish information for distinguishing the predetermined unit of pictures from the audio data, from the data read from the magnetic tape by the rotating head; and

selection means for selecting the first decompression means or the second decompression means according to the result of detection performed by the detecting means to process the data read from the magnetic tape by the rotating head,

wherein said predetermined unit of pictures and said corresponding audio data is recorded on a common main sector in a track, said track including an error correction

code, said common main sector including an SB header and main data, said main data including at least said predetermined unit of pictures and said corresponding audio data, and said SB header including identification information for identifying a type of said main data,

wherein said one group of the predetermined unit of pictures and said corresponding audio data is recorded in a predetermined number of tracks interleaved in said error correction code, and

wherein the predetermined number of tracks includes sixteen tracks.

17. (New) A magnetic-tape reproduction method for a magnetic-tape reproduction apparatus for reading by a rotating head a magnetic tape into which compressed, high-quality or standard, predetermined unit of pictures and corresponding audio data are recorded as one group on the magnetic tape such that said predetermined unit of pictures and the corresponding audio data are continuous on a track without any space disposed therebetween, comprising:

a first decompression step of decompressing the compressed, high-quality predetermined unit of pictures read from the magnetic tape by the rotating head;

a second decompression step of decompressing the compressed corresponding audio data among the data read from the magnetic tape by the rotating head;

a detecting step of detecting distinguish information for distinguishing the predetermined unit of pictures from the audio data, from the data read from the magnetic tape by the rotating head; and

a selection step of selecting a process performed in the first decompression step or in the second decompression step according to the result of detection performed in the detecting step to process the data read from the magnetic tape by the rotating head,

wherein said predetermined unit of pictures and said corresponding audio data is recorded on a common main sector in a track, said track including an error correction code, said common main sector including an SB header and main data, said main data including at least said predetermined unit of pictures and said corresponding audio data, and said SB header including identification information for identifying a type of said main data,

wherein said one group of the predetermined unit of pictures and said corresponding audio data is recorded in a predetermined number of tracks interleaved in said error correction code, and

wherein the predetermined number of tracks includes sixteen tracks.

18. (New) A recording medium for recording a computer-readable program, executed by a computer, which controls a magnetic-tape reproduction apparatus for reading by a rotating head a magnetic tape into which compressed, high-quality or standard, predetermined unit of pictures and corresponding audio data are recorded as one group on the magnetic tape such that said predetermined unit of pictures and the corresponding audio data are continuous on a track without any space disposed therebetween, comprising:

a first decompression step of decompressing the compressed, high-quality predetermined unit of pictures read from the magnetic tape by the rotating head;

a second decompression step of decompressing the compressed corresponding audio data among the data read from the magnetic tape by the rotating head;

a detecting step of detecting distinguish information for distinguishing the predetermined unit of pictures from the audio data among the data read from the magnetic tape by the rotating head; and

a selection step of selecting a process performed in the first decompression step or in the second decompression step according to the result of detection performed in the detecting step to process the data read from the magnetic tape by the rotating head,

wherein said predetermined unit of pictures and said corresponding audio data is recorded on a common main sector in a track, said track including an error correction code, said common main sector including an SB header and main data, said main data including at least said predetermined unit of pictures and said corresponding audio data, and said SB header including identification information for identifying a type of said main data,

wherein said one group of the predetermined unit of pictures and said corresponding audio data is recorded in a predetermined number of tracks interleaved in said error correction code, and

wherein the predetermined number of tracks includes sixteen tracks.